Claims

1. A separation frequency detector circuit for a radar level gauge comprising:
a first circuit element which is arranged to receive a first clock frequency and a second clock frequency, said first circuit element being arranged such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said first circuit element once each period of said second clock frequency;
wherein a second circuit element is arranged such that a predetermined value will be transferred to and held at an output Q of said second circuit element triggered by said output Q of said first circuit element, and
said second circuit element further being arranged to clear said predetermined value from said output Q of said second circuit element a predetermined time period after being triggered, whereby
said output Q of said second circuit element is arranged to provide an output signal comprising information relating to the separation frequency between said first and second clock frequencies of said radar level gauge.

2. The circuit (1) of claim 1,
wherein a third circuit element is arranged such that a predetermined value will be transferred to and held at an inverted output /Q of said third circuit element triggered by an inverted output /Q of said first circuit element, and
said third circuit element further being arranged to clear said predetermined value from said inverted output /Q of said third circuit element a predetermined time period after being triggered, whereby
said inverted output /Q of said third circuit element is arranged to provide an output signal comprising information relating to the separation frequency between said first and second clock frequencies of said radar level gauge.

3. The circuit (1) of claim 2,
wherein a fourth circuit element is arranged such that a value of an inverted output /Q of said second circuit element will be transferred to and held at an output Q of said fourth circuit element, and
said fourth circuit element further being arranged to clear said value triggered by an inverted output /Q from said third circuit element, whereby
said output Q of said fourth circuit element is arranged to provide an output signal essentially corresponding to the separation frequency between said first and second clock frequencies of said radar level gauge.

4. The circuit (1) of any one of claims 1 to 3,

wherein a fifth circuit element is arranged to receive said first clock frequency, said fifth circuit element being arranged such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said fifth circuit element once each period of said output Q of said second circuit element, whereby
said output Q of said fifth circuit element is arranged to provide an output signal comprising information relating to the phase of said separation frequency between said first and second clock frequencies of said radar level gauge.

5. The circuit (1) of claim 3,
wherein a sixth circuit element is arranged to receive said first clock frequency, said sixth circuit element being arranged such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said sixth circuit element once each period of said output Q of said fourth circuit element, whereby
said output Q of said sixth circuit element is arranged to provide an output signal comprising information relating to the phase of said separation frequency between said first and second clock frequencies of said radar level gauge.

6. A method for detection of a separation frequency in a radar level gauge said method comprising the steps of:,
arranging a first circuit element to receive a first clock frequency and a second clock frequency,
arranging said first circuit element such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said first circuit element once each period of said second clock frequency;
arranging a second circuit element such that a predetermined value will be transferred to and held at an output Q of said second circuit element triggered by said output Q of said first circuit element, and
arranging said second circuit element to clear said predetermined value from said output Q of said second circuit element a predetermined time period after being triggered, and
detecting at said output Q of said second circuit element an output signal comprising information relating to the separation frequency between said first and second clock frequencies of said radar level gauge.

7. The method of claim 6 further comprising the steps of;
arranging a third circuit element such that a predetermined value will be transferred to and held at an inverted output /Q of said third circuit element triggered by an inverted output /Q of said first circuit element, and
arranging said third circuit element to clear said predetermined value from said inverted output /Q of said third circuit element a predetermined time period after being triggered,

and
detecting at said inverted output /Q of said third circuit element an output signal comprising information relating to the separation frequency between said first and second clock frequencies of said radar level gauge.

8. The method of claim 7 further comprising the steps of;
arranging a fourth circuit element such that a value of an inverted output /Q from said second circuit element will be transferred to and held at an output Q of said fourth circuit element, and
arranging said fourth circuit element to clear said value triggered by an inverted output /Q from said third circuit element, and
detecting at said output Q of said fourth circuit element an output signal essentially corresponding to the separation frequency between said first and second clock frequencies of said radar level gauge.

9. The method of any one of claims 6 to 8 further comprising the steps of;
arranging a fifth circuit element to receive said first clock frequency,
arranging said fifth circuit element such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said fifth circuit element once each period of said output Q of said second circuit element, and
detecting at said output Q of said fifth circuit element an output signal comprising information relating to the phase of said separation frequency between said first and second clock frequencies of said radar level gauge.

10. The method of claim 8 further comprising the steps of;
arranging a sixth circuit element to receive said first clock frequency,
arranging said sixth circuit element such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said sixth circuit element once each period of said output Q of said fourth circuit element, and
detecting at said output Q of said sixth circuit element an output signal comprising information relating to the phase of said separation frequency between said first and second clock frequencies of said radar level gauge.

11. A radar level gauge arranged to use microwaves for determining a level of a surface of a product stored in a container, said radar level gauge comprising:
an antenna suitable for transmitting microwaves towards said surface and receiving microwaves reflected by said surface, and
a microwave transfer medium, a first end of which being coupled to said antenna, and
measurement circuitry, coupled to a second end of said microwave transfer medium, and
said measurement circuitry is arranged to determine said level based on a relation between transmitted and received microwaves, and
said measurement circuitry further being arranged to determine said level based on an analysis of a relation between microwaves transmitted at a second clock frequency and

received microwaves sampled at a first clock frequency, and
said measurement circuitry including for the purpose of said analysis a separation frequency detector for precisely determining the separation frequency between said first and second clock frequencies of said radar level gauge,
wherein said separation frequency detector comprises:
a first circuit element which is arranged to receive a first clock frequency and a second clock frequency, said first circuit element being arranged such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said first circuit element once each period of said second clock frequency, and
a second circuit element is arranged such that a predetermined value will be transferred to and held at an output Q of said second circuit element triggered by said output Q of said first circuit element, and
said second circuit element further being arranged to clear said predetermined value from said output Q of said second circuit element a predetermined time period after being triggered, and
a third circuit element is arranged such that a predetermined value will be transferred to and held at an inverted output /Q of said third circuit element triggered by an inverted output /Q of said first circuit element, and
said third circuit element further being arranged to clear said predetermined value from said inverted output /Q of said third circuit element a predetermined time period after being triggered; and
a fourth circuit element is arranged such that a value of an inverted output /Q of said second circuit element will be transferred to and held at an output Q of said fourth circuit element, and
said fourth circuit element further being arranged to clear said value triggered by an inverted output /Q from said third circuit element, whereby
said output Q of said fourth circuit element is arranged to provide an output signal essentially corresponding to the separation frequency between said first and second clock frequencies of said radar level gauge.

12. The radar level gauge of claim 11,
wherein a fifth circuit element is arranged to receive said first clock frequency, said fifth circuit element being arranged such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said fifth circuit element once each period of said output Q of said second circuit element, whereby
said output Q of said fifth circuit element is arranged to provide an output signal comprising information relating to the phase of said separation frequency between said first and second clock frequencies of said radar level gauge.

13. The radar level gauge of claim 11,
wherein a sixth circuit element is arranged to receive said first clock frequency, said sixth circuit element being arranged such that an instantaneous value of said first clock frequency will be transferred to and held at an output Q of said sixth circuit element once

each period of said output Q of said fourth circuit element, whereby said output Q of said sixth circuit element is arranged to provide an output signal comprising information relating to the phase of said separation frequency between said first and second clock frequencies of said radar level gauge.

14. The radar level gauge of claim 11 further comprising:
power supply circuitry for providing and distributing electrical power in said radar level gauge; and
communication circuitry for communicating information including an indication of said level of said surface, and
a two-wire interface for reception of electrical power to said power supply circuitry and for communication handled by said communication circuitry.

15. The radar level gauge of claim 11,
wherein said power supply circuitry further comprises energy storage circuitry.